

CHANGE REQUEST	
<b>Change Request #0000</b>	Freight Calculation
Description of Change	
<p><b>Description of Need:</b>            ACMECO wants to automate the calculation of Freight charges on Orders &amp; Invoices. Freight is calculated using the matrix below and the Shipping Weight field on the Item Maintenance window.</p> <p>The ZONE column will match the UPS Zone on the Customer Address Maintenance window for the Ship To Address Code on the sales transaction.</p> <p>The Freight calculation should only be active for one Shipping Method (Legion Express).</p> <p><b>Description of Solution:</b>            A new window will be added to GP to maintain the Freight Matrix. It will be accessed from Tools &gt;&gt; Setup &gt;&gt; Sales &gt;&gt; Freight Matrix. This window will allow creating and maintaining a freight charge matrix based on a combination of Shipping Method and UPS Zone.</p> <p>The Freight Calculation will execute automatically before the document is saved, transferred or printed. The calculation process will be as follows:</p> <ul style="list-style-type: none"> <li>• Retrieve the Shipping Method and UPS Zone for the sales transaction. If a Freight Matrix does not exist for the Shipping Method, the Freight Calculation will abort.</li> <li>• Calculate the total Shipping Weight on the document by multiplying the Qty Ordered of each Item by the Item's Shipping Weight</li> <li>• Locate the Cost per LB from the Freight Matrix and calculate the Freight Charge. If the Order Weight is below the First Weight, the Minimum Charge will be used.</li> <li>• Update the Freight Amount on the sales transaction</li> </ul> <p>NOTE: the Freight field is editable and can always be changed by the user if needed.</p> <p>An Extras menu (Extras &gt;&gt; Additional &gt;&gt; Calculate Freight) will be added to the Sales Transaction Entry window to force a manual recalculation of freight for the entire document.</p>	

X
Freight Matrix

Save
Delete
Clear

Shipping Method

Min Charge

below 1000

Zone	Description	LBS	LBS	LBS	LBS	LBS +
1	1-10 mi	\$35.00	\$0.035	\$0.030	\$0.025	\$0.020
2	11-25 mi	\$40.00	\$0.040	\$0.035	\$0.030	\$0.025
3	26-50	\$50.00	\$0.050	\$0.045	\$0.040	\$0.035
4	51-75	\$60.00	\$0.065	\$0.060	\$0.055	\$0.050
5	76+	\$75.00	\$0.075	\$0.070	\$0.065	\$0.060

= Lookup Button

Field	Function
Shipping Method	User will enter a Shipping Method, or select one from the Lookup. Freight Charge will be calculated automatically on Orders and Invoices only when the Shipping Method on the sales transactions has been set up in Freight Matrix.
Weight & Cost per LB	<p>The columns headers for the Weights are entered by the user when creating the Freight Matrix. In the example the weights shown are 1000, 2500, 5000 and 10000 lbs, but these could be adjusted up or down by the user as needed.</p> <p>The only requirement will be that the weights increase from left to right.</p> <p>Each Zone will have a Minimum Charge. This will be used whenever the weight of the order is BELOW the first weight (in this case, below 1000 LBS).</p> <p>The first weight column (1000) will be used when the Order's weight is 1000 to 2499 lbs. A 1500 LB order shipping to Zone 4 would be charged <math>1500 * \\$0.065 = \\$96.50</math>.</p> <p>NOTE: since these are user entered values, they software will actually calculating:            Order Weight <math>\geq</math> First Weight and <math>&lt;</math> Second Weight</p>
Zone	User enters a UPS zone. There is no "master record" for UPS Zone, so the value entered here should match a UPS Zone on Customer Address records. When the system attempts to calculate Freight it will use the UPS Zone from the sales

	transaction, and attempt to find a row in the Matrix using that Zone.  If the Customer's Ship To Address does not have a Zone, or the Zone does not exist in the matrix, no freight will be calculated.
Description	User enters a description of that zone. This is descriptive only, and has no function in the freight calculation.
Min Charge	A fixed dollar amount that is charged for each Zone when the Order Weight is below the First Weight (1000lbs in this example)
Cost per LB	User enters the Cost per LB for each Weight cut off. The Cost per LB is 3 decimal places.
Min Charge	User enter the Minimum Charge for each Weight cut off. If the sales transaction's total weight multiplied by Cost per LB is less than the minimum, then the system will use the Minimum Charge.
SAVE	Saves the matrix. ROWS are saved as the user tabs from one row to the next, or otherwise moves the cursor out of the scrolling window. The Weight column headers are save as they are entered.
DELETE	Deletes the selected Freight Matrix
CLEAR	Clears the window. Note: as described for the SAVE button, most changes are saved automatically, so it will not be possible to make changes to the matrix but then not save those changes.

The scrolling window will have 2 Rows. The first row is shown above. The user can expand the view to see a second row that will show the Minimum Charge calculated at each Weight/Zone combination. This will be calculated by the software, and is not editable by the user.

This design has some features that address the possible need for expansion/changes in the future.

- Shipping Method is user-entered. Allowing the user to create a Freight Matrix per Shipping Method provides the ability to have multiple freight schedules in the future.
- UPS Zone is user-entered. This allows for an unlimited number of zone divisions
- Weight Columns. While only 4 weight columns are shown, the software will have the ability to support up to 8 weight columns. This would require a small change to the window, but is much less costly to do than modifying the underlying table should more Weight divisions be needed.